Reprinted from the PAPER TRADE JOURNAL, *July 31, 1930*

Index, Technical Section, Vol. 90, Paper Trade Journal

January to June, 1930

Prepared by Clarence J. West, Chairman, Committee on Abstracts and Bibliography

The page numbers in the following index refer to the continuous paging of the Technical Section and have no relation to the paging of the individual numbers of the PAPER TRADE JOURNAL.

References to the abstracts are preceded by the letter A, those to the patents by the letter P. Other entries refer to original articles appearing in the Section. Author entries for the original articles are given in capitals. No author entries are given for the abstracted articles or patents.

In order to facilitate reference to the individual numbers of the PAPER TRADE JOURNAL, the following table is given, showing the pages of the Technical Section appearing in each of the 26 numbers for Volume 90 (January to June, 1930):

No. 1	Jan. 2	1-10	No. 14	April 3	204-213
No. 2	Jan. 9	13-22	No. 15	April 10	214-223
No. 3	Jan. 16	23-31	No. 16	April 17	224-233
No. 4	Jan. 23	32-41	No. 17	April 24	234-245
No. 5	Jan. 30	42-53	No. 18	May 1	246-255
No. 6	Feb. 6	54-61	No. 19	May 8	256-267
No. 7	Feb. 13	62-71	No. 20	May 15	268-279
No. 8	Feb. 20	72-145	No. 21	May 22	280-291
No. 9	Feb. 27	146-157	No. 22	May 29	292-301
No. 10	March 6	158-167	No. 23	June 5	302-323
No. 11	March 13	168-179	No. 24	June 12	324-335
No. 12	March 20	180-189	No. 25	June 19	336-347
No. 13	March 27	190-203	No. 26	June 26	348-357

A

Abrasive paper, impermeable P61
waterproofed P268
Acid, paper, effect on 96
Acid making in Scandinavia 55
Acidity, total, determining 349
Adhesive, sodium silicate as 316
Agalite, testing of A355
Ageing tests 52
Alkali, black liquor, recovery from 240
cellulose, action on A266
Alkaline process A179, A266, P266
Alkaline Pulping Committee, report 163
ALLAN, WM. G. Central station supplies steam and power to paper mill 32
ALLEN, F. B. Hydraulic ash and dust removal 182
Alloys, corrosion by sulphite liquor 314
corrosion resistant 88
Alum, losses in sizing A356
sizing, role in A356
Ammonium salts, wood, treatment of, with P355
ANDREWS, I. H. Relation of ink viscosity to penetration in news print 224
ARGY, M. J. Reminiscences of a ground wood man 302
Ash-handling system, hydraulic 182

B

Bagasse, papermaking material A287, P357
BAIRD, P. K., and DOUGHTY, R. H. Effect of bleaching variables on strength of spruce sulphite pulp 97
Bakelite sizing, patent review A205
BAKER, C. M. Key to white water utilization 320
White water utilization 153
BAKER, R. R. Section speed regulator 318
Ball bearings A335
Balsam wood, composition 161
Bamboo, papermaking material P355
Banana plant, papermaking material P355
Bark, fuel value A254
Barking drum P60, P297
Bearings, anti-friction A191
ball A355
Beater P221, P297
breaker, cleaning of P298
broke P298
cylinder washer P298
filler for P298
paper made in(?) 22
rotor-end guard P221
vertical 1
Beater drag, Green A356
Beater furnish, control 42
Beater roll P221
Beating A221
control of A356
hydrogen ion concentration and 305
sizing, relation of A271
strength, relation to A221
viscosity of cellulose, effect on 174
Beating engine P298, P355
Beating test, Abbe pebble mill A274
metal ball mill A274
BENSON, H. K. Measurement of pollution in sea water 332
BENTZEN, TH. C. Determining water-soluble materials 292
Mercerization test 87
BEUSCHLEIN, W. L. *See* Haring, R.
BIALKOWSKY, H. W. Cuprammonium viscosity of cotton cellulose 170
Bibliography, papermaking 1928 ..... A299
papermaking, 1929 108
See also Patent reviews.
BICKING, GEO. W. *See* Shaw, Merle B.
Bicolored papers P254
Bitumen, waterproofing with P285
Black liquor, alkali recovery from 240, P357
causticizing P357
density and temperature A179
heat balance 244
recausticizing 217
resin recovery P267
silica, removal of P266
Bleach, viscosity of cellulose, effect on 174
Bleach washing 157
Bleaching P205, A356, P356
ozone, use of A221
pulp strength, effect on 97
sulphite pulp A271
temperature, effect of A356
Bleaching powder, analysis A222
Blood-proof paper P71
Blotting paper, machine for P301
Blue gum, papermaking material A177
Board, corrugated, properties of A253
corrugated, grooving P287
drier for P31, P191
drying 192, P223, P274
drying, steam consumption in 192
grooving P287
waterproofing P285, P286
Board machine, water removal on 192
Board mills, white water utilization in 320
Boiler drums 314
Boiler plants A252
Standard Paper Mfg. Co. 293
Boiler water, conditioning A335
Boilers, Southeastern Production Co. 32
stoker feed 81
Bond papers, soda-soluble test for 331
Book mills, white water utilization in 320
Book paper, apparatus P232
BOOTH, L. M. High yield in straw paper making 168
Boric acid, paper, effect on P287
Box board P285
Bright stain 5
Brittleness test A285
Broke beater P298
Bruguiera gymnorhiza, papermaking material A263
Bureau of Standards, paper laboratory A254
BURRILL, H. G. Steam improvements at Standard Paper Mfg. Co. 293
Bursting strength, tensile strength, relation to 212
tester for 210, P223
Butchers fiber, semi-sulphite process 208
Button board P286

C

CABLE, DONALD E. Physical standards for pulp 330
See also Rothchild, H. A.
Caddy stock P285
Calender coloring system 269
Calender doctor, control for P188
Calender drive, electric A245
Carbon dioxide, effect on determination of acidity 352
Carbon paper P245, 286
color composition for P31
CARPENTER, L. A. *see* Schafer, E. R.
CARSON, F. T., and WORTHINGTON, F. V. Bursting strength tests 210
Casein, detection of A222
determination A291
glue, determination in presence of 186
testing A222, A335
Cathode rays, effect on paper A223
Causticizing plant 308
Cedar wood, composition 162
Cellulo Co., paper machine 21
Cellulose, adsorptive power A178
alkali, action of A266
alkali, oxidation with A264
alpha, determination of A265, A289
ammonium salts, treatment with P355
beta, determination of A289
determination A264
determination by chlorine dioxide A178
hydrated P355
mercerization test 87
micro-structure A289
phenylhydrazine acetate, reaction with A289
swelling number A266
viscosity 170
viscosity, determination A264
wood, determination in A177
X-ray structure A264
Central station power 32
Centrifiner 103
Ceriops boiviniana, papermaking material A263
Chemical microscopy (book review) 181
Chemipulp process 304
CHIDESTER, G. H. *See* Curran, C. E.
China clay A222
Chip board A253
Chip distributor for digesters P60
Chips, dryer for P60
handling in Scandinavia 55
Chlorine, cellulose, isolation of A264
flax, treatment of, with P357
slime control with 268, A356
Chlorine dioxide, cellulose, determination of A178
Chlorine plant A299
Chlorine process P267
CHRISTENSEN, ANDREAS. Ferro alloy's in sulphite mill 145
Chromium alloys 89
corrosion by sulphite liquor 315
Chromium nickel alloys, corrosion by sulphite liquor 315
Cigarette tips, paper for P254
CIRVES, FRANCIS J. Wood deterioration 160
Clays, moisture content A335
paper, retention in A222
testing A335
Coal, pulverized A335
relative fuel values 13
Coarseness modulus 258
Coated paper P31
manufacture A290
Coating, analysis A291
removal for analysis 186
Coating apparatus P245
Coating machine P31
Cockles, elimination of 77
Cocoa husks, papermaking material A289
CODWISE, P. W. Determination of surface sizing 175
Water resistance sub-committee report 80
Colors, matching 212
Combustion, vertical jet 91
Committee on training for industry, report 101

702151

Composition board, apparatus for..... P42
Consistency meter P298
Consistency regulator P232, P298
Consistency tester A222
Containers, fiber, requirements for..... A253
Cooking liquor, sulphite A204
COOPER, CHAS. M. Sulphur burning.. 180
COOPER, N. A. Slime control with chlorine 268
Copper number A222
Copperas, chlorinated, as coagulant..... 168
Copying paper P245
Cornstalks, alkaline process for..... P267
composition A288
insulating board from A245
papermaking material P263, P267, A288
Corrosion 88, A252, A298
digester 140
ferro alloys 145
piping A191
sulphite liquors 314
Corrosion Committee, report 107
Corrugated board P245
Corrugating paper 295
Cotton, degradation, test for..... 331
CRANE, J. B. High pressure steam generator 155
Creped paper, folded P286
method for P286
waxed 45
Crinkled paper, drier for P244
CRUTE, W. R. Heat and power problems 312
CURRAN, C. E. Pulping of Southern woods 25
CURRAN, C. E., MONSSON, W. H., and CHIDESTER, G. H. Semi-sulphite process 206
CURTIS, M. E. Specifications for .009 straw board 284
Cylinder machine P70, P233
Cylinder mold P291
Cymene A204
Cyperus papyrus, papermaking machines.... P263

D

Deckle P232
Decorated papers, patent review..... 247
Deinking, waste paper P288
Deinking process P297
Deinking solution P177
Delthirna process A272, A335
Digester, apparatus for charging.....P60, P291
chip distributor P60
corrosion of 140
explosion of 140
metals for 90
sulphate P60
sulphite P60
welded P205
Dirt, centrifugal separation 103
Doctor P301
control for P188
Dot count method A222
DOUGHTY, R. H. *See* Baird, P. K.
Douglas fir, papermaking material..... 63
sulphate pulp from 282
Drive, electric P244
variable speed P300
Dryer P179, P233
board P31, P191, A274
board, efficiency of 192
condensation exhaust P179
crinkled paper P244
drive for P167, P189, P273, P301
electrically heated, temperature control P167, P179
festoon P274
fine papers 322
paper tubes P274
steam distribution system P244
threading paper through P167
Dryer shell P179, P188
heat transfer in A245
Drying P245, A252, P300
essentials of 75
gradual temperature in..... 75
heat requirements 158
mechanism A273
papers A167
processed papers P71
pulp A272
roofing papers P286
superheated steam P273
Drying cylinder, explosion of 142
water evacuator P273
Drying drum, inductively heated..... P273
Drying system, Standard Paper Mfg. Co... 293
Dyeing A272, P335, A335
hydrogen ion concentration and..... 306
surface 269
Dyes, hydrogen ion concentration of..... 306
fastness to light A291
spraying apparatus for P232

E

Elastic paper, apparatus for.....P287, P290
Electric drive, use with mechanical drive.... 283
Electric power A334
Erkensator 103
Esparto, paper machine for.....A232, A300
Eucalyptus, papermaking material..... A177
Evaporation, measurement of A252
Evaporators A253
Ezomatsu, papermaking material..... A177

F

Felt cleaner, vacuum seal P301
Felt roll P69
Felts, cleaning P70
reconditioning P70
suction press A273
Ferro alloys, corrosion of 107, 145
sulphite mill, use in 145
Fertilizer, sulphite waste liquor..... P204
Festoon drier P274
Fiber analysis, dot count method..... A222
Fiber board P245
fire resistant P286
multi-ply P285
resin P286
waterproofed P71
Fiber composition, paper, determination of.. 4
Fiber test sheets, preparation..... 225
Fillers A220, P220
retention of A272
Filters, vacuum, pulp washing on..... 156
Fine papers A254
driers for 322
Flax, chlorine process for P357
Flax straw, papermaking material.....A177, A179
Flooring paper, drying P286
Flow box, stock deflector P69
Fluff, prevention of P253
Fluffer, mechanical 29
Folding resistance, tester for P31
Fourdrinier, shake for P69
Fourdrinier machine P300
rails for P232
removable type P69
Fourdrinier wires, developments in A70
Freeness tester A222
Freeness testing, pulp evaluation by..... A275
FRISCH, MARTIN. Boiler plant fuels.. 13
Fritz hydrator 1
Froth, elimination of P254
Fuel economizers A252, A334
Fuels, boiler plants 13
relative economy of 13
Furnace, vertical jet 91

G

GALLOWAY, WILSON W. .009 corrugated paper 295
Gas, fuel value, relative 13
Gases, wood, adsorption by..... A288
GEOHEGAN, K. P. Chemical microscopy. 164
Glazed paper, apparatus P285
Glue, casein, determination in presence of... 186
detection A222
Grass cutter P233
Grasses, papermaking material P267, P355
pulping process P267
Gray gum, papermaking material A177
Greaseproof paper P71
Green liquor, clarification, continuous 307
recovery of A266
Grinders, comparison of A266
hydraulic, history 302
magazine 303
Groundwood 147
European practice 303
flour, determination of A222
Hurum flour tester A222
Groundwood mill, scientific control in..... A179

H

Hair felt P41
HALSEY, WM. D. Pressure vessels in the paper industry 140
HARING, ROBERT, HAUFF, THOR, and BEUSCHLEIN, W. L. Effect of sodium sulphite-sodium hydroxide upon kraft pulp from Douglas fir..... 282
HASCHE, R. L. Liquid sulphur dioxide.. 348
HAUFF, THOR. *See* Haring, R.
Head box P69
Heating plants, steam 84
Hemlock wood, composition 161
Hemp, papermaking material P264
Hemp fiber, purification P355
Hemp stalks, characteristics 276
HENDERSON, DOUGLAS. Vertical jet combustion 91
HERITAGE, C. C. Report of paper board committee 59
Herzberg stain 4
Hill tubular agitator A221
HINMAN, E. S. Report of alkaline pulping methods committee 163
HOFFMAN, W. F., and OLSEN, S. R. Deterioration of paper 95
Honkolahy, papermaking material A263
Honkovavy, papermaking material A263
Human engineering 324
Hurun flour tester A222
Hydrator, vertical 1
Hydrogen ion concentration 95
determining A204, 351
determining, automatic A253
sizing, relation to A356
stock 305
water 305

I

Ink, viscosity and penetration of paper.... 224
Insulating board P286
cornstalk A245
hard grainless P41
Insulating paper P71
mica coated P287
Introfiers A233

J

Jack pine, composition 163
Jones paper finish tester P291
Jordan, hydrating of cellulose in..... P356
shell lining for P298
Jordan refiner, operation of..... P223
Jute fiber, composition A178
purification P355
Jute waste, papermaking material P264

K

Keebra process A267
KELLOGG, R. S. Making news print paper 14
Kelp, paper containing P61
KNOWLES, C. L. Kraft mill recausticizing practice 217
Soda and sulphate recausticizing practice 307
Kraft paper A179
cyclic process P266
Kraft pulp mill A253

L

Labor conditions in Scandinavia 56
Laminated paper, machine for P70
Ledger paper, loose leaf P285
Lignin A178
color reactions A265
determination A290
pine, preparation from A178
review A178
utilization 64
Lignosulphonic acid, spruce wood A265
Lime, slaking, continuous 307
LINDBERG, S. C. Centrifugal separation in stuff preparation 103
Liquids, woods, penetration of, by..... A288
Lithographic paper, problem of A290, A291
Lofton-Merritt stain 4
Log handling methods A223
Lubrication A334
costs A253
LUNDBECK, I. *See* Rothchild, H. A.
LUND, M. H. Straw pulp by Rinman method 23

M

Machine drive, sectional, variable speed..... P301
Machine room, heat requirements 158
heat sources 159
Machines P300
Mangrove wood, papermaking material.... A263
Maritime pine, papermaking material A288
Marx funnel filter A223
Mechanical drive, electricity and 283
Mechanical handling A299
Mechanical pulp, fractionation by screen anaylsis 258
purification P355
rejections, utilization of A266
screen analysis for 258
Mercerization test 87
Mercoid control A191
MERRILL, A. D. Chemi-pulp process.... 304
Meters A191
Microscopical analysis, pulp A222
Microscope, papermaker's 30
paper mill, use in 164
Mica, paper, coating of, with..... P287
MILKEY, L. E. Paper machine of Cellulo Co. 214
MILLER, J. D. Report of corrosion committee 107
Resistance of alloys to sulphite corrosion 314
Mill sites A299
Mills A190, A233, A253, A299
Mineral fillers, differentiation 165
microscopic determination 165
MINOR, JESSIE E. Rag content paper manufacturers laboratory 52

MITCHELL, W. M. Corrosion resistant alloys 88
Mixing tanks P334
Moisture, paper, determination in P222
MONSSON, W. H. *See* Curran, C. E.
MONTGOMERY, A. E. Heat requirements for machine rooms 158
MORRISON, H. A. Pulp washing on vacuum filters 156
Motors, line start A252
Mulch paper, patent review A253
Multiply paper P167

N

Naval stores, research in 64
Newspaper, semi-sulphite process 206
News print P245
costs 146
dyeing A335
ink, penetration by 224
mills, white water utilization in 320
rolls A301
Nickel alloys, corrosion by sulphite liquor .. 315
Nitric acid, wood, treatment of, with P355
Nordstrom drying tower P60
NOYES, H. G. Report on training for the industry 101

O

OHLSON, JOHN F. Scandinavian sulphite manufacture 54
Oil, relative fuel value 13
Oils, rancidity, prevention of P221
OLSEN, S. R. *See* Hoffman, W. F.
OLZENDAM, RODERIC. Human engineering 324
Opacimeter 72
Ostwald color theory A335
OWENS, E. J. Is paper made in the beater? 22
Ozone, bleaching with A221

P

Paper, acid, effect of, on 96
air drying A273
analysis and classification A291
bicolored P254
blood-proof P71
blotting paper, machine for P301
bond, soda-soluble test for 331
book, apparatus for P232
brittleness test A285
carbon P245, P286
carbon, color composition for P31
cathode rays, effects of A223
chemical analysis A223
clay, retention of A222
coated P31
coated, manufacture A290
coating P286
coating apparatus P31, P245
coating, removal of, for analysis 186
cockling A299
colored, fastness to light A291
conditioning P71
copying P245
corrugating P61, 295
creped, folded P286
creped, method for P286
creped, waxed 45
crinkled, drier for P244
crinkling machine P61
deinking P177, P288
deterioration A223, A299
deterioration, review 95
drying A167
durability A223
dyeing A335, P335
elastic, apparatus for P287, P290
elasticity P287
fiber composition, determination of 4
fillers, retention of, by A272
fine A254
fine, drier for 322
finish tester P31
finishing, apparatus for P189
flooring, drying of P286
folding resistance tester P31
glazed, apparatus for P285
greaseproof P71
humidity, effect of A285
insulating P71
insulating, mica coated P287
kelp containing P61
kraft A179
laminated, machine for P70
ledger, loose-leaf P285
microscopical tests A222
mineral filler, microscopical determination 165
moisture content, proper 78
moisture content, recording device for. P71
moisture, determination of P222
mulch, patent review A253
multiply P167
oiling attachment P301
packaging P334
paraffin, determination of 5
parchmentizing P31
penetrability of A291
permeability of A291
permeability tester P31
printers, tests for A222
protective P61
processed, rapid drying P71
reinforced P71
resin, applying of, to P287
roofing P41
roofing, drying A299
safety P286
shipping in sheets A299
sodium silicate, effect of 317
splitting test 187
starch, determination of 5
striped, apparatus for P189
tests for A222, A285
thickness on machine, measuring of P297
threading through drier P167
tightly coiled, apparatus for P191
two-sidedness A272
wall, drying P335
waterproof P71, P254
water resistance of 80
water resistant P287
water-soluble material, determination of 292
waxed, patent review 43
waxing apparatus P191
waxing attachment P301
weight, electrical control P223
weight, photoelectric cell for control of 72
Paper board, liner, sizing of A205
waterproof P285
Paper Board Committee, report 59
Paper core, cap remover P301
Paper finish, tester P31, P291
Paper machine, Cellulo Co. 214
drive speed 255
Paper making, colloids in A272
problems of 149
Paper making fibers, chemical composition .. 188
classification 187
Paper making materials
bagasse A287, P357
bamboo P355
banana plant P355
blue gum A177
Bruguiera gymnorhiza A263
Ceriops boiviniana A263
cocoa husks P289
colonial plants P263
corn stalks A263, P267, A288
Cyperus papyrus P263
Douglas fir 63
Eucalyptus A177
Ezomatsu A177
flax straw A177, A179, P264
grasses P267, P355
gray gum A177
hemp P264
honkolahy A263
honkovaxy A263
jute waste P264
mangrove wood A263
maritime pine A288
Phorium tenax A288
Pices jezoensis A177
pine wood A288
Pinus hamiltoni A288
reeds P355
Rhizophora macronata A263
rice straw P205
stringy bark A288
straw 168, A179, A263, A267, P267, P357
sugar cane P264
sugar gum A177
tailolona A263
woods, resinous P288
wild rice A288
Zizania Latifolia A288
Paper mills A288
book A254
heating A253
Wisconsin, waste survey 328
Paper rolls, forming and handling P188
wrapping machine P61, P334
Paper stock, cleaning P68
consistency regulator P68, P69
Paper strips, apparatus for P290
Paper Testing Committee, report 185
Paper trucks A253
Paper wash cloth P71
Papier mache, chemical analysis A223
Paraffin, paper, determination in 5
waxed paper, use in 43
Paraffin wax emulsion 43
Parchment, vegetable P243
Patent review
bakelite sizing A205
decorated papers 247
mulch paper A253
photographic papers A290
vulcanized fiber board A291
waxed paper 43
Patents, United States 57, A191, A254, 256
PEARSON, F. A. Light measuring rod for paper 72
Penescope, Abram P31
Permeability of paper, test of A291
Permeability tester P31
Phenylhydrazine acetate, cellulose, reaction with A289
Phorium tenax, cellulose from A288
Photo Electric Cell 72
Photographic papers, patents on A290
Pices jezoensis, papermaking material A177
Pinus hamiltoni, papermaking material A288
Pipes A253
Piping, corrosion of A191
Pitch, wood, determination in A275
Plied sheet, manufacture of P70
Plastic, artificial A299
Pollutional surveys, Wisconsin 327
PORTER, L. W. *See* Sutermeister, E.
Power, central station for paper mill 32
electric A252
hydro 234
steam 234
Power plants A335
Printer, paper problems A253
paper tests for A222
Propeller agitation A221
Protective paper P61
Pulp
bleaching P205, P355
centrifugal purification 103
cleaning apparatus P297
consistency meter P298
drying P223, A272
evaluation A222
evaluation by screen analysis 258
fiber length, average 259
freeness tester A222
freeness testing A275
physical standards A275, 330
pitch, determination of A275
pulpstone grit, relation of 265
salt solutions, treatment with P355
shredders P190
slowness tester P31
strength, bleaching effect of 97
strength, shredding, effect of 98
strength testing 143
beating for A274
semi-automatic sheets machine A275
tannic acid, treating with P300
Pulp and Paper Research Institute A254
Pulp articles, molds for P290
Pulp ash, composition of 246
Pulp flow, automatic regulation P300
Pulp mills, Wisconsin, waste survey 328
Pulp preparation, Scandinavia 56
Pulp screen P61, P68, P189, P190, P297
centrifugal P61
rotary P61
vertical P61
Pulp shredder P68
Pulp stone grit, fiber quality, relation to .. A265
Pulp washing, vacuum filters 156
Pulping engine P68
Pulpboard, apparatus for P191
Pulpwood, costs of 25
Pumps A334

Q

Qualitative analysis, microscopic 164

R

Rag content paper manufacturers' laboratory 52
Rags, cleaning P297
RASMUSSEN, C. F. Gradual temperatures in paper drying 75
Raw materials, evaluation of A299
Recausticizing practice 307
continuous 217, 307
two stage 309
Recording instruments A191
Reeds, papermaking material P355
Refiner, feed box for P68
Reforestation, Sweden 54
Reinforced paper P71
Research A299
naval stores 64
Resin, black liquor P267
paper, applying to P287
Rhizophora mucronata, papermaking material A263
Rice straw, papermaking material P205
Rifflers A297
Rinman process, straw pulp by 23
ROBERTS, F. M. Electricity and mechanical drive 283
Rod mill, Marcy P356
water pulp ratio P297
Roll wrapping machine A254
Roof, paper mill A253
Roofing, prepared P61
prepared, apparatus for P286
processed, drying of P286
Roofing felts A254
saturating P334
testing method A275
Roofing paper P41
drying A299
Rosin size A205
analysis A272
hydrogen ion control ..... A20[illegible]

review 353
Rosin wax sizing A205
Ross-Grewin vapor removal system A273
Rosser P60
ROSSMAN, JOSEPH. Manufacture of waxed paper 43
ROTHCHILD, H. A., LUNDBECK, I., and CABLE, D. E. Strength testing of wood pulp 143

S

Safety paper P286
Salt cake, analysis A222
Salt solutions, pulp, treatment of, with P355
SAVAGE, H. D. Recent development in stoker design 5
Scale, Toledo continuous A223
Scandinavia, pulp manufacture in A178
SCHAFER, E. R., and CARPENTER, L. A. Screen analysis in pulp evaluation 258
SCHAFER, E. R., and SIMMONDS, F. A. Hemp stalks and seed flax straw 276
Schilde drying system A274
SCHNEIDER, C. C. Matching color in laboratory 212
Screen analysis, pulp evaluation by 258
SCRIBNER, B. W. Report of paper testing committee 185
See also West, C. J.
Sea Water, oxygen consumption 332
pollution, measurement of 332
sulphite waste liquor, detection of 332
Sectional drives A272
Selenium, sulphite process, catalytic action in A204
Semi-sulphite process 28, 206, 303
cost data 208
rod mill in 207
wood waste with A264
SHAFFER, RALPH W. pH value of water and stock 305
SHAW, MERLE B., BICKING, GEORGE W., and SNYDER, LEO W. Fiber test sheets 225
Sheet, tearing, prevention of P68
Sheet press 228
Shive count A179
Shredder P355
Shredding of pulp, effect on strength 98
SIMMINDS, F. A. *See* Schafer, E. R.
Size, sodium silicate as 316
soluble in cold water P357
wax, oxidized, as P357
See also Rosin size.
Sizing, beating, relation of A271
buffer process A205
Delthirna method A272
engine, patent review A205
factors in A272
hydrogen ion concentration and 305, A356
losses in, control of A356
rosin A356
surface, determination of 175
testing A291
water, effect of, on 175
Slabs, barking P60
Slice, adjustable P300
elastic P232
Slime control 321
chlorine, use of 268, A334, A356
Slitter, shear cut, overlapping P301
unloading device P190
Slowness tester P31
SNYDER, LEO W. *See* Shaw, Merle B.
Soda process, recausticizing in 307
Soda pulp, vacuum washing 156
SODERBERG, F. A. Surface coloring ... 269
Sodium bisulphite, use of A204
Sodium silicate, paper manufacture, use in 316
Sodium sulphite, sulphite waste liquors, preparation from P357
Sodium sulphite cooking liquor, production of P357
Soot blower A252
Southeastern Production Co., equipment ... 39
power plant 32
Speed regulator, sectional 313
Splitting test, paper 187
Spruce wood, composition 162
lignosulphonic acid from A265
sulphite process for P271
Starch, paper, determination in 5
sizing, detection as A222
sodium silicate, use with 317
STEADMAN, B. K. Soda soluble test for cotton degradation 331
Steam, automatic control P167
central station, for paper mills 32
generator, high pressure 155
high pressure A191, 312
superheated 313
Steam accumulator A335
Steam plants A335
Steam superheater A334
Steam turbine A335
Stencil sheet P31, P41, P245, P285, P286
Stell, corrosion resistant A252
Stock, consistency regulator P232
hydrogen ion concentration 305
Stock feed regulators, patent review A233
Stock inlet P69
Stock loss, determination A254
Stokers 81
Combustion Engineering Corporation .. 8
Harrington 9
recent developments 6
Riley 9
Taylor multiple retort 7
Westinghouse multiple retort 8
Stone rolls P300
Straw, alkali process P267
flax, papermaking material P264
monosulphite Process A267
papermaking material 168, A179, A263, P267, A267
pulping P357
seed flax, composition A263
physical and chemical characteristics 276
waste liquor, disposal of 168
Straw board, nine point, specifications 284
Straw paper, corrugating, standards of 295
Straw pulp, Rinman process 23
Stream pollution A299
Stringy bark, cellulose from A288
Striped paper, apparatus for P189
Suction box P233, P300
air removal from P70
cover P300
cover, planing P70
cover, replacing P70
oscillating P69
Suction roll P70, A245, P300
box suspension P233
Sugar cane, papermaking material P264
Sugar gum, papermaking material A177
Sugars, sulphite process, behavior in A179
SULLIVAN, J. J. New type dryer for fine paper 322
Sulphate process, recausticizing in 307
Sulphate pulp, alkalinity of cooking liquor, effect of 282
cooking liquor composition, effect of 282
Douglas fir, preparation from 282
time of cook, effect of 282
Sulphite cellulose pitch P267
Sulphite industry, history A271
Sweden 54
Sulphite liquor, corrosion by 314
preparation P267
pulp, bleaching of, by P355
Sulphite mills, problems of A205
Sulphite process A179, P267
acid P267
cooking schedule A291
heat recovery P291
problems 147, A205
selenium, catalytic action of A204
sugar-like substances in A179
Sulphite pulp
alkali soluble components A288
bleaching, two-stage A271
cooking liquor for P271
purification P355
Scandinavian processes 54
Sulphite waste liquor
evaporation P357
fertilizer from P204
oxygen consumption 333
sea water, detecting in 332
sodium sulphite from P357
treatment P267
Sulphur, burning, factors in 180
Sulphur burner, pressure P204
Sulphur dioxide, absorption by water 346
liquefaction 349
manufacture 348
Wolf recovery system P205
Superheater, steam A252
SUTERMEISTER, E. Papermaking fibers and PORTER, L. W. Paper testing .. 187 186
Sutermeister stain 4
Swelling number of cellulose A266
SWIFT, MARION B. Rosin sizing review 353

T

Table roll P69
Tailolona, papermaking material A263
Talc, testing A335
Tamarack wood, composition 161
Technical control 42
TEFFT, WM. W. Power—steam or hydro or both 234
Tensile strength, bursting strength, relation to 212
Test liner, properties A253
Test sheets A275
Thorne process P204
Tissue mills, white water utilization 320
Tolhurst clarifier 104
TORRE, PAUL. Human relations in beater furnish control 42
Training for industry 101
Tube, drying of P274
Turbines, steam 313

V

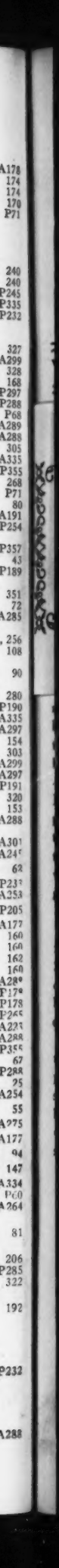
Vacuum dryer, seal for P167
Vacuum filters, pulp washing on 156
VAIL, JAMES G. Silicate of soda in paper manufacture 316
Viscose, pulp requirements for A178
Viscosity, beating, effect of, on 174
bleach, effect of, on 174
cellulose, determination of 170
Vulcanized fiber P71

W

WAGNER, C. L. Alkali recovery 240
Wagner furnace 240
Wall board P245
Wall paper, drying P335
Tiffany, dye spraying apparatus for ... P232
WARRICK, L. F., and WATSON, K. M. Pollutional survey in Wisconsin paper mills 327
Waste, industrial A299
paper mills 328
Waste liquors, straw, disposal of 168
Waste paper, cleaning P297
deinking P177, P288
soaking machine P68
utilization P177, A289
washing A288
Water, hydrogen ion concentration 305
mill supplies A335
reuse P355
sterilization with chlorine 268
Water bottle, paper P71
Water resistance sub-committee, Report 80
Water softening, hydrogen ion control of .. A191
Waterproof paper P71, P254
WATSON, K. M. *See* Warrick, L. F.
Wax, oxidized, as sizing agent P357
Waxed paper, patents on 43
Web-winding machines P189
WEHMHOFF, B. L. Determining pH values and total acidity 351
Weight, paper, by photoelectric cell 72
Weller brittleness tester A285
WEST, CLARENCE J., U. S. patents on papermaking 57, 256
Bibliography of papermaking for 1929 .. 108
Report of Committee on abstracts and bibliography 90
and SCRIBNER, B. W. Bibliography of Bureau of Standards publications .. 280
Wet machine, cutting mechanism P190
White water A335
analysis 151, A297
closed system 154
groundwood process, use in 303
losses A189, A299
measurement 151, A297
reclaiming P191
utilization 320
utilization, developments in 153
Wild rice, papermaking material A288
WILKINS, R. A. *See* Wyman, George R.
Winder P244, A301
drive, multiple motor ..... A24[illegible]
WINSLOW, C. P. Better forest utilization 62
Wires ..... P23[illegible]
testing apparatus A253
Wolf sulphur dioxide recovery system P205
Wood, cellulose, determination of, in A177
composition 160
constituents 160
density 162
deterioration 160
gases, adsorption of, by ..... A28[illegible]
grinder, chain for ..... P17[illegible]
continuous P178
regulator for ..... P26[illegible]
handling methods ..... A22[illegible]
liquids, penetration of ..... A28[illegible]
nitric acid, treatment with ..... P35[illegible]
preservation 67
resinous, papermaking material P288
Southern, pulping of 25
waste, fuel value A254
Wood costs, Scandinavia 55
Wood fibers, purified, quality of A275
Wood pulp, high purity A177
Wood refuse, fuel value 94
Wood room, problems of 147
Wood waste, burning equipment A334
dryer P60
semi-chemical process A264
WORKER, J. G. Modern stoker-fired steam generating units 81
WORTHINGTON, F. V. *See* Carson, F. F.
Wrapping paper, semi-sulphite process 206
waterproof P285
Writing paper, dryer for 322
WYMAN, GEORGE R., and WILKINS, R. A. Water removal on board machines 192

Y

Yankee machine P232

Z

Zizania latifolia, papermaking material A288